

UNITED STATES PATENT AND TRADEMARK OFFICE

BEFORE THE PATENT TRIAL AND APPEAL BOARD

VALEO NORTH AMERICA, INC.; VALEO S.A;
VALEO GmbH; VALEO SCHALTER UND SENSOREN GmbH;
and CONNAUGHT ELECTRONICS LTD.,
Petitioner,

v.

MAGNA ELECTRONICS, INC.,
Patent Owner.

Case IPR2015-00250
Patent 8,543,330 B2

Before RICHARD E. RICE, JAMES A. TARTAL, and
BARBARA A. PARVIS, *Administrative Patent Judges*.

TARTAL, *Administrative Patent Judge*.

FINAL WRITTEN DECISION
35 U.S.C. § 318(a) and 37 C.F.R. § 42.73

I. INTRODUCTION

Petitioner Valeo North America, Inc., Valeo S.A., Valeo GmbH, Valeo Schalter und Sensoren GmbH, and Connaught Electronics Ltd., filed a Petition requesting an *inter partes* review of claims 1–89 of U.S. Patent No. 8,543,330 B2 (“the ’330 patent”). Paper 1 (“Pet.”). Patent Owner Magna Electronics, Inc. filed a Preliminary Response. Paper 6 (“Prelim. Resp.”). We instituted an *inter partes* review of: (1) claims 1–7, 9, 10, 13–15, 18, 22–24, 26, 27, 29, 30, 39–41, 43–49, 52, 55, 56, 58–61, 63–69, 72, 76–78, 80–83, and 85–88 as obvious under 35 U.S.C. § 103(a) over Lemelson,¹ Schofield,² and Tokito;³ and (2) claims 25, 57, 75, and 89 as obvious under 35 U.S.C. § 103(a) over Lemelson, Schofield, Tokito, and Schaefer.⁴ Paper 7.

After institution of trial, Patent Owner filed a Response (Paper 9, “PO Resp.”), to which Petitioner replied (Paper 10, “Reply”). Absent a request from either party, an oral hearing was not held. See Paper 16.

We have jurisdiction under 35 U.S.C. § 6(c). In this Final Written Decision, issued pursuant to 35 U.S.C. § 318(a) and 37 C.F.R. § 42.73, we determine that Petitioner has shown by a preponderance of the evidence that

¹ U.S. Patent No. 6,553,130 B1 (“Lemelson,” Ex. 1005), issued April 22, 2003, from an application filed June 28, 1996.

² U.S. Patent No. 5,670,935 (“Schofield,” Ex. 1007), issued September 23, 1997, from an application filed May 22, 1995.

³ U.S. Patent No. 6,259,423 B1 (“Tokito,” Ex. 1006), issued July 10, 2001, from an application filed August 17, 1998. Petitioner misidentifies Tokito as U.S. Patent No. 6,226,061 in the Petition, which we understand to be an inadvertent mistake in light of the content of Exhibit 1006. See Pet. 5.

⁴ U.S. Patent No. 4,731,769 (“Schaefer,” Ex. 1008), issued March 15, 1988, from an application filed April 14, 1986.

claims 1–7, 9, 10, 13–15, 18, 22–27, 29, 30, 39–41, 43–49, 52, 55–61, 63–69, 72, 75–78, 80–83, and 85–89 are unpatentable.

II. BACKGROUND

A. *The '330 Patent (Ex. 1001)*

The '330 patent, titled “Driver Assist System for Vehicle,” issued September 24, 2013, from U.S. Application No. 13/621,382, filed September 17, 2012. Ex. 1001. Petitioner contends the earliest effective filing date of the '330 patent is January 22, 2002. Pet. 13–16. Patent Owner states that “the earliest priority date of the '330 patent” is March 2, 2000. PO Resp. 30. March 2, 2000, is the date that provisional application No. 60/186,520 (“the '520 application”) was filed, the earliest of fifteen provisional applications identified on the face of the '330 patent. With respect to the claims of the '330 patent under review, Patent Owner offers no argument or evidence to demonstrate either that any claim is entitled to priority to the '520 application or that any asserted reference is not prior art. Accordingly, we determine based on the evidence and argument presented that each of the asserted references is prior art to the '330 patent.

The '330 patent is directed to a driver assist system for a vehicle, including a camera with an exterior field of view and a video display operable to display image data captured by the camera to the driver of the vehicle. Ex. 1001, Abstract. The system is operable to detect objects in the exterior field of view and to provide a visual alert and an audible alert responsive to detection of an object exterior of the vehicle. *Id.* According to Patent Owner, “[t]he driver assist systems having electronically generated indicia overlaying the video image of the rearward scene described in the

'330 patent were a significant advance over prior reversing systems.”

PO Resp. 2 (citing Ex. 1001, 27:4–10); *see also* Ex. 2001 ¶¶ 17–19.

B. Illustrative Claim

Claims 1, 39, 59, and 76 of the '330 patent are independent. Claims 2–7, 9, 10, 13–15, 18, 22–27, 29, and 30 ultimately depend from claim 1; claims 40, 41, 43–49, 52, and 55–58 ultimately depend from claim 39; claims 60, 61, 63–69, 72, and 75 ultimately depend from claim 59, and claims 77, 78, 80–83, and 85–89 ultimately depend from claim 76. Claim 1 of the '330 patent is illustrative of the claims at issue:

1. A driver assist system for a vehicle, said driver assist system comprising:
 - a rearward facing camera disposed at a vehicle equipped with said driver assist system and having a rearward field of view relative to the equipped vehicle;
 - a video display viewable by a driver of the equipped vehicle when normally operating the equipped vehicle, wherein said video display is operable to display image data captured by said rearward facing camera;wherein said driver assist system is operable to detect objects present in said rearward field of view of said rearward facing camera
- wherein said driver assist system is operable to provide a display intensity of said displayed image data of at least about 200 candelas/sq. meter for viewing by the driver of the equipped vehicle;
- wherein said driver assist system is operable to provide a visual alert to the driver of the equipped vehicle responsive to detection of an object rearward of the equipped vehicle during a reversing maneuver of the equipped vehicle;
- wherein said driver assist system is operable to provide an audible alert to the driver of the equipped vehicle responsive to detection of an object rearward of the

equipped vehicle during a reversing maneuver of the equipped vehicle; and
wherein said visual alert comprises electronically generated indicia that overlay said image data displayed by said video display, and wherein said electronically generated indicia at least one of (i) indicate distance to a detected object rearward of the equipped vehicle and (ii) highlight a detected object rearward of the equipped vehicle.

Ex. 1001, 31:47–32:12.

III. ANALYSIS

A. Claim Construction

Only terms which are in controversy need to be construed, and then only to the extent necessary to resolve the controversy. *Vivid Techs., Inc. v. Am. Sci. & Eng'g, Inc.*, 200 F.3d 795, 803 (Fed. Cir. 1999).

1. “at least one of”

Petitioner contends that, as used in the '330 patent, “at least one of” a series of elements was intended to signify a disjunctive list of alternatives, not a requirement of one of each element listed. Pet. 17–19. Petitioner contrasts this interpretation of “at least one of” from that applied in *SuperGuide Corp. v. DirecTV Enterprises, Inc.*, 358 F.3d 870, 885–88 (Fed. Cir. 2004) (requiring “at least one of” each identified element), and supports its contention by identifying portions of the specification that make clear the listed elements are disjunctive alternatives. Pet. 18. Patent Owner does not address the claim term. For the reasons provided by Petitioner, we are persuaded that “at least one of” is used in the '330 patent to identify a disjunctive list of alternatives.

2. *“display intensity”*

Petitioner contends “display intensity” should be construed to mean “luminance” because the ’330 patent describes values for “display intensity” in candelas/sq. meter, the International System of Units (“SI”) units for luminance. Pet. 20. Patent Owner does not dispute Petitioner’s contention. PO Resp. 3; Ex. 2001 ¶ 20. We agree with Petitioner that “display intensity,” as used in the ’330 patent, is synonymous with “luminance.”

3. *“human machine interface”*

Claim 22 requires the driver assist system of claim 1, “comprising a human machine interface, said human machine interface comprising at least one user input.” Ex. 1001, 33:21–23. Claims 55 and 88 contain similar limitations. Petitioner contends that “human machine interface” should be interpreted to mean the part of an electronic machine or device which serves for the information exchange between the operator/user and the machine/device. The term “human machine interface” does not appear in the specification of the ’330 patent outside of the claims. Claim 22 recites that the “human machine interface” accepts user input. Petitioner, however, has not explained sufficiently why we should adopt its proposed construction requiring that the “human machine interface” must “exchange” information from the device to the user. However, there is no dispute that Lemelson discloses a human machine interface, and Patent Owner does not argue that the term requires an express construction. PO Resp. 3; *see also* Ex. 2001 ¶ 21. Accordingly, we determine no express construction is necessary for “human machine interface.”

4. “*electronically generated overlay*”

Patent Owner contends that “electronically generated overlay” should be construed to mean “electronically-generated indicia superimposed upon and overlaying a displayed video image.” PO Resp. 4. “Electronically generated overlay,” however, *is not a claim term*. As Patent Owner notes, independent claims 1, 39, 59, and 76 recite “electronically generated indicia that overlay said image data displayed by said video display.” Thus, Patent Owner’s contentions with respect to a term, “electronically generated overlay,” that does not appear in any claim are not persuasive.

Additionally, a comparison of Patent Owner’s proposed definition to the actual claim language suggests Patent Owner is largely repeating the claim language, not providing a useful definition. Patent Owner seeks to insert “superimposed” into the claim language by arguing that there is a statement in the specification that “a distance grid can be electronically *superimposed upon the video image*.” PO Resp. 4 (quoting Ex. 1001, 27:30–34). Had Patent Owner shown there is a difference between “overlay” and “superimposed,” we would not have been persuaded to adopt Patent Owner’s proposed construction because limitations are not imported into a claim from the written description. *SuperGuide*, 358 F.3d at 875 (“[t]hough understanding the claim language may be aided by explanations contained in the written description, it is important not to import into a claim limitations that are not part of the claim”). In this case, however, there is no substantive dispute between the parties over the meaning of “overlay.” Petitioner notes an ordinary and customary definition of “overlay” is “to lay or spread over or across: superimpose.” Reply 5 (quoting Ex. 1022). Thus

“overlay” and “superimpose” mean the same thing. For the foregoing reasons, to the extent Patent Owner implies any difference between “overlay” and “superimpose” by including both terms in its proposed construction, we are not persuaded. We determine that “electronically generated indicia that overlay said image data displayed by said video display,” does not require an express definition, and we apply its ordinary and customary meaning.

B. Obviousness Over Lemelson and Other Asserted Prior Art

Petitioner contends that claims 1–7, 9, 10, 13–15, 18, 22–27, 29, 30, 39–41, 43–49, 52, 55–61, 63–69, 72, 75–78, 80–83, and 85–89 are unpatentable as obvious over Lemelson and various additional asserted prior art. According to Petitioner, Lemelson describes “virtually the entirety of the claimed inventions,” but for “trivial matters of design choice” and “features already known as being desirably incorporated into automobiles.” Pet. 20–21. Petitioner’s contentions are supported by the Declaration of Dr. Ralph V. Wilhelm (Ex. 1014), and a second Declaration from Dr. Wilhelm filed in reply (Ex. 1021).⁵ In opposition to Petitioner’s contentions, Patent Owner relies on the Declaration of Dr. Matthew A. Turk. Ex. 2001.

⁵ According to Patent Owner, Dr. Wilhelm’s Declaration should be afforded no weight because his opinions consider whether a claim “would *more likely than not* have been obvious” to a person of ordinary skill, rather than “whether the subject matter ‘*would have been* obvious.’” PO Resp. 47–49. As an initial matter, Patent Owner misrepresents the Institution Decision by stating it “acknowledges that Dr. Wilhelm’s Declaration uses an improper obviousness standard,” when that decision does no such thing, and instead states “[e]ven assuming Patent Owner’s distinction has merit, we are not persuaded that it warrants affording no weight to Dr. Wilhelm’s entire declaration.” Paper 7, 10 (emphasis added). According to Petitioner

1. *Scope and Content of the Prior Art*

(a) *Lemelson (Ex. 1005)*

Lemelson, titled “Motor Vehicle Warning and Control System and Method,” describes a system and method that use a camera mounted on a vehicle to scan the roadway to assist the driver of a vehicle in preventing or minimizing accidents. Ex. 1005, Abstract. An image-analyzing computer processes the video picture signals generated by the camera to generate codes that serve to identify obstacles. *Id.* A decision computer in the vehicle receives code signals from the image analyzing computer, as well as the speedometer or other sensors, to generate control signals. *Id.* The code signals may be displayed, and sound generation or warning means used to warn the driver of approaching and existing hazards. *Id.* The control signals may be used to operate the brakes and steering of the vehicle to lessen the effects of a collision. *Id.*

“Dr. Wilhelm combined into a single statement the standard for determining obviousness (whether the claimed subject matter as a whole would have been obvious to a [person of ordinary skill in the art]) with the preponderance of the evidence (i.e., more likely than not) burden of proof applicable in this inter partes review.” Reply 2. We find no merit to Patent Owner’s contention that an expert’s testimony is entitled to no weight merely because his opinions discuss what, more likely than not, would have been obvious to a person of ordinary skill. Similarly, we find no basis for Patent Owner’s contention that Dr. Wilhelm’s Declaration should be afforded no weight because he “relies on information in the claim charts that is not actually there.” See PO Resp. 43–47.

(b) *Schofield (Ex. 1007)*

Schofield, titled “Rearview Vision System for Vehicle Including Panoramic View,” describes an image capture device directed rearward of a vehicle and a display system to display an image synthesized from output of the image capture devices to the driver. Ex. 1007, Abstract. Schofield explains that:

In order to further enhance the driver’s understanding of what is occurring in the area surrounding the vehicle, a rearview vision system 12” includes a display 20” having image enhancements (FIG. 6). In the illustrative embodiment, such image enhancements include graphic overlays 70a, 70b which are hash marks intended to illustrate to the driver the anticipated path of movement of vehicle 10. In the illustrated embodiment, the anticipated vehicle motion is a function of the vehicle direction of travel as well as the rate of turn of the vehicle. The forward or rearward direction of vehicle travel is determined in response to the operator placing the gear selection device (not shown) in the reverse gear position.

Id. at 10:29–41.

(c) *Tokito (Ex. 1006)*

Tokito, titled “Display Device Using Organic Electroluminescent Elements,” describes a luminescent panel that can display an image from video information. Ex. 1006, Abstract, col. 1:64–67. The measured luminance in front of the direct-viewing display described by Tokito is 500 candelas/sq. meter. *Id.* at 10:44–45. Tokito states that such a display preferably may be used for an onboard display visible to a driver, and that because a sufficient luminance is obtainable, “a secure display can be effected even when the sun shines through the window.” *Id.* at 10:53–67.

(d) *Schaefer (Ex. 1008)*

Schaefer relates to “a central operating input and information system for the control of a plurality of optional instruments in a vehicle,” and teaches a “touch-sensitive display screen where a place of touch can be localized on its surface (“touch screen”) so that the control keys can be shown individually on the screen as virtual touch keys or touch fields.” Ex. 1008, 1:8–13, 5:40–44.

2. *Level of Skill in the Art*

In the Petition, Petitioner refers to the Declaration of Dr. Wilhelm as providing his opinion of the level of skill of a person having ordinary skill in the art at the time of the invention. Pet. 8 (citing Ex. 1014 ¶¶ 17–21). According to Dr. Wilhelm, a person of ordinary skill in 2002 would have had: (1) “at least a bachelor’s degree in electrical engineering, computer science, or physics, and would have had at least 2-5 years of experience with human factors for automotive design, i.e., for how humans interact with a display in a vehicle;” and (2) “a working understanding of microprocessor-driven controls for displays, actuators, and elementary decision making, and would have been comfortable working in a systems environment relating to instrumentation displays for new vehicles.” Ex. 1014 ¶¶ 20–21.

Patent Owner argues that Petitioner has failed to set forth how the claims are unpatentable because “the Petition does not resolve or even address the level of ordinary skill in the art,” and does not show “how the purported art reflects the level of ordinary skill in the art.” PO Resp. 30–31. We disagree.

Patent Owner fails to identify any substantive deficiency in the level of ordinary skill in the art articulated by Dr. Wilhelm, upon which the Petition relies. See Pet. 8. Patent Owner's expert, Dr. Turk, states that a person of ordinary skill "would have had at least a Bachelor's degree in electrical, electronic, or mechanical engineering, or equivalent experience, and at least two years of experience in the relevant field, such as imaging systems for vehicles." Ex. 2001 ¶ 12. Contrary to Patent Owner's unsupported argument that the level of ordinary skill in the art is unresolved, Dr. Turk's testimony is largely consistent with Dr. Wilhelm's testimony, and Patent Owner does not argue otherwise. Because we discern no substantively significant difference between the proposed levels of skill, we further agree with Petitioner that the patentability of the claims does not turn on whether Dr. Wilhelm's or Dr. Turk's express identification of the level of ordinary skill is adopted. See Reply 21.

Moreover, it is well-settled that the level of ordinary skill in the art may be reflected by the prior art of record. *Okajima v. Bourdeau*, 261 F.3d 1350, 1355 (Fed. Cir. 2001); *In re GPAC Inc.*, 57 F.3d 1573, 1579 (Fed. Cir. 1995); *In re Oelrich*, 579 F.2d 86, 91 (CCPA 1978). We find the level of ordinary skill in the art to be reflected in the cited references, and discern no reason why Petitioner in this case must expressly state in the Petition "how" it is reflected. A person of ordinary skill is presumed to be aware of all pertinent prior art. *Standard Oil Co. v. Am. Cyanamid Co.*, 774 F.2d 448, 454 (Fed. Cir. 1985); *Kimberly-Clark Corp. v. Johnson & Johnson*, 745 F.2d 1437, 1449–54 (Fed. Cir. 1984). In this case, the level of ordinary skill in the art is evidenced by the references themselves.

3. *Differences Between the Claimed Subject
Matter and the Prior Art*

(a) *Obviousness Over Lemelson, Schofield, and Tokito*

(i) *Independent Claims 1, 39, 59, and 76*

Petitioner contends that Lemelson discloses nearly all of the features of claims 1, 39, 59, and 76, with the only substantive difference being the specifically claimed luminance value for the in-vehicle display, for which Petitioner relies on Tokito. Pet. 21. Petitioner further relies on the express teachings of Schofield to confirm what it contends is implicit in Lemelson with regard to displaying a video image from the rear-facing camera when the vehicle is in reverse. *Id.* Many of the limitations of claims 1, 39, 59, and 76 are substantially similar, and Petitioner provides a claim chart identifying how each feature of each claim is disclosed by the asserted references. *Id.* at 23–30.

There is no dispute that Lemelson discloses the limitations of claims 1, 39, 59, and 76 corresponding to “a rearward facing camera” or “a camera,” “a video display viewable by a driver . . . operable to display image data” captured by the camera, and a driver assist system “operable to detect objects” in the field of view of the camera. *See* Pet. 23–25. There also is no dispute that Tokito discloses a display intensity of “at least about 200 candelas/sq. meter,” as required by claims 1, 39, 59 and 76. *See id.* at 25–26.

Claims 39, 59, and 76 further require that the system provide a “visual alert” and an “audible alert” “to the driver . . . responsive to detection of an object exterior of the equipped vehicle.” Petitioner’s contention that Lemelson discloses these features is not disputed by Patent Owner.

Lemelson discloses an image display that “may include highlighting of hazards,” which we agree with Petitioner corresponds to the claimed “visual alert.” See Pet. 26 (quoting Ex. 1005, 6:49–55). We also agree with Petitioner that Lemelson discloses warnings, including “audible alarms” which “can be combined with actual video displays of vehicle situations including hazards and nearby objects.” Pet. 27 (quoting Ex. 1005 9:55–65).

Claim 1 likewise requires a “visual alert” and an “audible alert,” but further requires that they are “responsive to detection of an object rearward of the equipped vehicle during a reversing maneuver.” Petitioner contends Lemelson implicitly discloses this feature, and that Schofield further expressly confirms that such a feature was known in the art. Pet. 21. With regard to Lemelson, the question of obviousness does not turn on whether Lemelson recites the exact words of the claim in the order of the claim, but what a person of ordinary skill in the art, who is also a person of ordinary creativity, would have appreciated from the teachings of Lemelson. See *KSR Int’l Co. v. Teleflex Inc.*, 550 U.S. 398, 421 (2007). There is no dispute that Lemelson discloses the use of cameras for rear viewing “to further improve hazard detection capabilities.” Ex. 1005, 6:37–42. We agree with Petitioner that one of ordinary skill in the art would have understood from Lemelson that a visual or audible alert would be provided when an object is detected rearward of the vehicle, and that if a purpose of Lemelson is to avoid hazards, common sense dictates that such an alert would be operational when the vehicle is operated in reverse “during a reversing maneuver,” as claimed. See Pet. 21, Ex. 1014 ¶ 38.

Patent Owner disputes the sufficiency of Lemelson's disclosure with respect to a "reversing maneuver," but fails to explain what is missing from Lemelson, or what aspect of any claimed feature would not have been obvious to one of ordinary skill in light of all that Lemelson teaches. See PO Resp. 13–14.

Additionally, we further agree with Petitioner that Schofield also expressly discloses operation during a reversing maneuver, as claimed. See Pet 26 (citing Ex. 1007 10:29–55 (describing a "rearview vision system" in which hash marks illustrate the "the anticipated path of movement" of the vehicle and the direction of travel "is determined in response to the operator placing the gear selection device . . . in the reverse gear position").

Patent Owner does not dispute the substance of Schofield's disclosure, but instead argues that Petitioner did not sufficiently discuss how Schofield's disclosure corresponds to the claimed alerts. PO Resp. 14. Similarly, Patent Owner argues that Petitioner did not consider all elements of the claim because Petitioner did not expressly construe "during a reversing maneuver" to mean "when the vehicle is in 'reverse.'" *Id.* Patent Owner's arguments are not persuasive because Patent Owner does not explain what "during a reversing maneuver" requires that is not disclosed by Schofield (or Lemelson), and offers no explanation of what is incorrect with Petitioner equating the term to operating a vehicle in reverse. We see no need for further explanation to establish that "during a reversing maneuver" encompasses an operation that occurs "when the vehicle is in reverse." Indeed, Patent Owner does not explain what else it could possibly mean. To be clear, the burden is on Petitioner to show unpatentability, and, here,

Petitioner has made an adequate showing that the claimed features were disclosed and would have been obvious. *See* Pet. 26–27. Patent Owner’s conclusory and unsupported assertion that Petitioner’s “broad characterizations” are insufficient does not persuasively rebut Petitioner’s evidence of obviousness and the knowledge of one of ordinary skill in the art. *See* PO Resp. 14–15 (arguing, for example, that Petitioner “provides no discussion as to how this disclosure discloses a visual alert or audible alert that is *responsive to detection of an object rearward of the equipped vehicle during a reversing maneuver of the equipped vehicle*,” but failing to address what Lemelson and Schofield actually disclose, or fail to disclose).

Finally, claims 1, 39, 59, and 76 require that the visual alert include “electronically generated indicia that overlay” the image data displayed on the video display, and either “indicate distance to a detected object rearward of the equipped vehicle,” or “highlight a detected object rearward of the equipped vehicle.” Petitioner has shown that Lemelson discloses an image display that may include “highlighting of hazards” and “distance values.” More specifically, Lemelson states that “video scanning . . . may be . . . employed to identify and indicate distances between the controlled vehicle and objects ahead of, to the side(s) of, and to the rear of the controlled vehicle,” and that “[t]he image display may include . . . distance values.” Pet. 28 (quoting Ex. 1005, 6:5–8, 49–51). We find unpersuasive Patent Owner’s arguments that the disclosure of Lemelson is insufficient. PO Resp. 7–13. First, Patent Owner identifies no support from the ’330 patent for its proposition that “visual alert” should be read “to require the likes of guidelines or other markings,” other than Dr. Turk’s testimony, which is

speculative, conclusory, and based on no identified information or evidence. *See* Ex. 2001 ¶ 29. To the contrary, the claim language only requires that the visual alert be “electronically generated,” “overlay” the image data, and “indicate distance to a detected object.” None of these features requires “guidelines or other markings,” which is beyond the scope of the claims. *See* Reply 7–8.

Next Patent Owner argues that Lemelson’s disclosure of visual alerts, including distance values, *could be* displayed separate from the video images, for example, “above, below, to the right or to the left.” PO Resp. 12. Again, Patent Owner’s argument is supported by nothing more than the speculation of Dr. Turk. *See* Ex. 2001 ¶ 29. Patent Owner’s argument is not supported by the disclosure of Lemelson, which states that the image display may *include* distance values, and further fails to address what would have been obvious to one of ordinary skill, arguing instead that any number of undisclosed configurations was possible. Lemelson states that the “image display may include the highlighting of hazards,” and “simulated displays of symbols representing the hazard objects as well as actual video displays.” Ex. 1005, 6:49–55. Patent Owner offers no plausible reason why the highlighting, symbols, and distance information Lemelson describes as being displayed on the video display would be understood by one of ordinary skill to mean anything but that it overlays the image data. *See* Ex. 2001 ¶¶ 26–37. There is nothing in Lemelson Patent Owner has identified to suggest that the visual alerts appear on a split screen or above, below, to the left, or to the right of the image data. *See id.* Nor has Patent Owner shown anything in Lemelson to support Patent Owner’s argument that the visual

cues disclosed by Lemelson might not overlay image data because it “could mask, confuse, or obscure image data in the video images.” See PO Resp. 8–9. For example, Patent Owner offers no plausible explanation of how an object could be highlighted in a video image, as disclosed by Lemelson, *without* using an overlay. We also find more persuasive Dr. Wilhelm’s testimony that Lemelson discloses to one of ordinary skill the claimed “electronically generated indicia that overlay.” See Ex. 1021 ¶¶ 17–18, 20–24, 26–34.

Claim 59 further requires at least one user input, which, among several alternatives, may comprise an input for a navigational system of the equipped vehicle. Corresponding to this limitation, we agree that Lemelson discloses a keyboard or microphone with a speech recognition computer employed by the driver to generate command control signals for controlling the navigational computer. See Pet. 29–30 (citing Ex. 1005, 16:11–19, 15:45–16:38).

Claim 76 further requires that “responsive to detection of an object, the driver’s attention is drawn to an object displayed on said video display.” We agree with Petitioner that Lemelson discloses this limitation. See Pet. 30 (quoting Ex. 1005, 6:47–55 (describing images, including highlighting of hazards, which may be displayed “to enhance driver recognition of dangerous situations”)).

In consideration of the evidence and arguments presented in the Petition, Patent Owner’s Response, and Petitioner’s Reply regarding claims 1, 39, 59, and 76, we agree with Petitioner that the combination of

Lemelson, Schofield, and Tokito discloses every limitation of each of those claims as shown in Claim Chart 1 of the Petition. *See* Pet. 23–30.

(ii) *Claims 2–4, 9, 18, 22–24, 26, 27, 48, 55, 56, 58, 68, 87 and 88*

Petitioner asserts that each of claims 2–4, 9, 18, 22–24, 26, 27, 48, 55, 56, 58, 68, 87, and 88 is unpatentable as obvious over Lemelson, Schofield, and Tokito. Pet. 21–30, 34, 41–43, 45–46, 53.

We agree with Petitioner that dependent claims 2, 9, 22, 26, 48, 68, and 87 recite the same or similar elements as one or more of the four independent claims 1, 39, 59, and 76. *See* Pet. 21–30. Claim 2 limits the electronically generated indicia recited in claim 1 to one of the two alternatives recited in claim 1 (i.e., to “indicate distance to a detected object rearward of the equipped vehicle”), a limitation shown above to be disclosed by Lemelson with respect to claim 1. Claim 9 (dependent on claim 1), claim 48 (dependent on claim 39), and claim 68 (dependent on claim 59) each recite the same limitation independent claim 76 recites as “wherein, responsive to detection of an object, the driver’s attention is drawn to an object displayed on said video display.” As discussed above with respect to claim 76, this limitation is disclosed by Lemelson. *See* Ex. 1005, 6:47–55.

We also agree with Petitioner that Lemelson and Schofield disclose the features further recited in claims 3 and 4. *See* Pet. 34. Claim 3 recites the electronically generated indicia comprise, as one alternative, “a graphic display.” Ex. 1001, 32:16–19. Lemelson discloses a graphic display as claimed. *See* Pet. 34 (quoting Ex. 1005, 6:49–55). With respect to claim 4, Schofield discloses the features of electronically generated indicia “indicative of an intended path of rearward travel,” as claimed. *See id.*

(quoting Ex. 1007, 3:5–11 (describing a graphic overlay superimposed on the display image which “may include indicia of the anticipated path of travel of the vehicle which is useful in assisting the driver in guiding the vehicle in reverse directions”)).

Claim 18 requires that the video display is operable to display, among various alternatives, “a symbol.” We agree with Petitioner that Lemelson discloses that “[s]imulated displays of symbols representing the hazard objects as well as actual video displays may also be used to enhance driver recognition of dangerous situations.” See Pet. 45–46 (quoting Ex. 1005, 6:52–55).

Claims 22, 26, 58, and 87 all recite a user input, or, more particularly, “one input for a navigational system.” Claims 23, 55, and 88 require, among alternatives, “at least one of a vocal input” as the user input. Claims 24 and 56 require, among alternatives, “at least one of a keypad input” as the user input. As discussed above with respect to claim 59, these limitations are disclosed by Lemelson. See Pet. 41–43; Ex. 1005, 16:11–19, 15:45–16:38.

Claim 27 requires that the video display be disposed at, among alternatives, “an instrument panel of the equipped vehicle.” We agree with Petitioner that Lemelson discloses just such a “dashboard display.” See Pet. 53 (quoting Ex. 1005, 5:55–56).

Patent Owner does not argue that the combination of Lemelson, Schofield, and Tokito fails to disclose any limitation of claims 2–4, 9, 18, 22–24, 26, 27, 55, 56, 68, 87, and 88 beyond the arguments Patent Owner raises with respect to claims 1, 39, 59, and 76. For the same reasons discussed above with respect to claims 1, 39, 59, and 76, and based on our

further consideration of the evidence and arguments presented in the Petition, Patent Owner's Response, and Petitioner's Reply regarding claims 2–4, 9, 18, 22–24, 26, 27, 48, 55, 56, 68, 87, and 88, we agree with Petitioner that the combination of Lemelson, Schofield, and Tokito discloses every limitation of each of those claims as shown in Claim Charts 1, 4, 8, 10, and 14 of the Petition. *See* Pet. 21–30, 34, 41–43, 45–46, 53.

(iii) Claims 13, 40, 41, 60, 61, 77, and 78

Petitioner asserts that each of claims 13, 40, 41, 60, 61, 77, and 78 is unpatentable as obvious over Lemelson, Schofield, and Tokito. Pet. 30–32.

Claim 13 requires “wherein said rearward facing camera is mounted at the rear of the equipped vehicle.” Ex. 1001, 32:53–58. Petitioner relies on Lemelson as disclosing that multiple cameras may be used for front, side, and rear viewing, as part of a system for identifying and indicating distances to objects, including objects to the rear. Pet. 31 (quoting Ex. 1005, 6:5–8, 6:36–41). As discussed above, inferences and creative steps that a person of ordinary skill in the art would employ can be taken into account. Although Lemelson does not expressly disclose that its rearward facing camera is mounted at the rear, we agree with Petitioner that mounting a rearward facing camera at the rear would have been obvious to one of ordinary skill and would better enable the rearward camera to capture a rearward field of view. *See* Ex. 1014 ¶ 44.

Claims 13, 40, 60, and 77 further require “during a reversing maneuver of the equipped vehicle, image data captured by said rearward facing camera is displayed by said video display as video images so as to assist the driver in reversing the equipped vehicle.” Claims 41, 61, and 78

further require that “said driver assist system is operable to detect objects present in said rearward field of view of said rearward facing camera during a reversing maneuver of the equipped vehicle.” Schofield discloses precisely what is claimed in the ’330 patent, describing it as a “rearview vision system” intended to “further enhance the driver’s understanding of what is occurring in the area surrounding the vehicle.” *See* Pet. 31–32 (quoting Ex. 1007, 10:29–55). As with the similar limitations recited in independent claim 1, discussed above, we also are persuaded that Lemelson discloses the claimed features as well. *See* Pet. 32 (quoting Ex. 1005, 6:5–8, 8:66–9:6); *see also In re Baird*, 16 F.3d 380, 383 (Fed. Cir. 1994) (quoting *In re Burckel*, 592 F.2d 1175, 1179 (CCPA 1979)) (a “reference must be considered not only for what it expressly teaches, but also for what it fairly suggests”). Also as discussed above with respect to claim 1, Patent Owner’s argument that Petitioner insufficiently discussed “during the reversing maneuver” by equating it to operating a vehicle in reverse is unsupported and not persuasive. *See* PO Resp. 16–17.

Based on our consideration of the evidence and arguments presented in the Petition, Patent Owner’s Response, and Petitioner’s Reply regarding claims 13, 40, 41, 60, 61, 77, and 78, we agree with Petitioner that the combination of Lemelson, Schofield, and Tokito discloses every limitation of each of those claims as shown in Claim Chart 2 of the Petition. *See* Pet. 30–32.

(iv) *Claims 5–7, 10, 49, 69, and 83*

Petitioner asserts that each of claims 5–7, 10, 49, 69, and 83 is unpatentable as obvious over Lemelson, Schofield, and Tokito. Pet. 33–35.

Each of the claims requires that the electronically generated indicia highlight the detected object. Similarly, with regard to the “electronically generated indicia,” claim 6 requires that it “highlight a detected object that the equipped vehicle is in jeopardy of colliding with during the reversing maneuver,” and claim 7 requires that it “highlight a detected object by flashing a portion of said video display to draw the driver’s attention to a detected object displayed by said video display.”

Lemelson discloses an image display that may include “highlighting hazards,” as well as “special warning images such as flashing lights,” and “visual light indicators of different intensity.” *Id.* (quoting Ex. 1005, 6:49–51, 8:30–34, 9:54–65). Patent Owner argues that Lemelson’s disclosure of “highlighting hazards” does not disclose “that 1) the hazard is actually the detected object rearward of the equipped vehicle, and 2) the detected object is being highlighted.” PO Resp. 18 (citing Ex. 2001 ¶ 50). Patent Owner also argues that Lemelson does not disclose the “particular features” claimed, such as that the detected object that is highlighted or the portion that is flashing is the object with which the vehicle is “in jeopardy of colliding.” *Id.* at 19–21.

We disagree. Lemelson discloses a system for assisting a driver in preventing accidents by using cameras to detect objects, including objects rearward of the vehicle, and then alerting the driver by, among other things, “highlighting hazards.” *See, e.g.*, Ex. 1005, Abstract, 6:5–55, 8:66–9:65. That the individual words recited in the ’330 patent do not appear in precisely the same order in Lemelson has no bearing on what Lemelson would have taught one of ordinary skill. We are persuaded that one of

ordinary skill would have understood from Lemelson that an object detected would be identified as a hazard and highlighted to alert the driver. *See* Ex. 1021 ¶¶ 39–46.

Based on our consideration of the evidence and arguments presented in the Petition, Patent Owner’s Response, and Petitioner’s Reply regarding claims 5–7, 10, 49, 69, and 83, we agree with Petitioner that the combination of Lemelson, Schofield, and Tokito discloses every limitation of each of those claims as shown in Claim Charts 3 and 4 of the Petition. *See* Pet. 33–35.

(v) *Claims 43, 63, and 80*

Petitioner asserts that each of claims 43, 63, and 80 is unpatentable as obvious over Lemelson, Schofield, and Tokito. Pet. 36–38. Each of the claims require both a visual and audible alert to the driver responsive to detection of an object rearward of the equipped vehicle during a reversing maneuver. Ex. 1001, 35:46–53, 37:52–59, 39:21–28. We agree with Petitioner that Lemelson discloses the recited elements. *See* Pet. 36–38. In particular, Lemelson teaches a system with “speakers and display drivers to perform either or both the functions of audible and/or visually informing or warning the driver of the vehicle of a hazardous road condition.” Ex. 1005, 5:24–26. Patent Owner does not raise additional specific arguments with respect to Petitioner’s contentions of unpatentability with respect to claims 43, 63, and 80 beyond Petitioner’s contentions regarding claims 1, 39, 59, and 76 addressed above. *See* PO Resp. 13–16.

Based on our consideration of the evidence and arguments presented in the Petition, Patent Owner’s Response, and Petitioner’s Reply regarding

claims 43, 63, and 80, we agree with Petitioner that the combination of Lemelson, Schofield, and Tokito discloses every limitation of each of those claims as shown in Claim Chart 5 of the Petition. *See* Pet. 36–38.

(vi) *Claims 14, 15, 52, and 72*

Petitioner asserts that each of claims 14, 15, 52, and 72 is unpatentable as obvious over Lemelson, Schofield, and Tokito. Pet. 38–40. Claims 14, 52, and 72 require “non-visual object detection” of objects present in the rearward field of view of the rearward facing camera. Claim 15 requires that the non-visual object detection “comprises ultrasonic object detection.” We agree with Petitioner that, corresponding to the recited limitations, Lemelson discloses an “auxiliary range detection means” using radar or lidar. *Id.* at 39 (quoting Ex. 1005, 5:67–6:8). Lemelson expressly states that “[i]n a modified form, video scanning and radar or lidar scanning may be jointly employed to identify and indicate distances between the controlled vehicle and objects ahead of, to the side(s) of, and to the rear of the controlled vehicle.” Ex. 1005, 6:5–8. We also agree with Petitioner that Schofield discloses a separate distance measuring system which may include “radar, ultrasonic sensing, infrared detection, and other known distance measuring systems.” *Id.* at 40 (quoting Ex. 1007, 11:21–25).

Patent Owner argues that Lemelson “does not disclose that the interpreted *signals* from the radiation receiving means detect objects ‘present in [a] rearward field of view of [a] rearward facing camera.’” PO Resp. 22. According to Patent Owner “Lemelson only discusses receiving signals from the radiation receiving means, and not the location of or detection of objects,” and Patent Owner further argues that Petitioner does

not explain “how these signals in Lemelson teach the claimed non-visual *detection of objects* in the rearward field of view of a rearward facing camera.” *Id.* at 22–23. Patent Owner reasons that Lemelson uses radar or lidar to detect objects anywhere around the vehicle, and is “not constrained to objects present in the rearward field of view of a rearward facing camera.” *Id.* at 22. We find no logic supports Patent Owner’s contention that Lemelson is deficient merely because its disclosure of the use of radar and lidar is broad enough to encompass not only the detection of objects rearward of the vehicle, but also objects in other directions of the vehicle. We agree with Petitioner that Lemelson discloses the narrower claimed subject matter within the scope of its disclosure. *See* Reply 15 (citing Ex. 1021 ¶¶ 37–38).

Based on our consideration of the evidence and arguments presented in the Petition, Patent Owner’s Response, and Petitioner’s Reply regarding claims 14, 15, 52, and 72, we agree with Petitioner that the combination of Lemelson, Schofield, and Tokito discloses every limitation of each of those claims as shown in Claim Chart 6 of the Petition. *See* Pet. 38–40.

(vii) *Claims 29, 30, 85, and 86*

Petitioner asserts that each of claims 29, 30, 85, and 86 is unpatentable as obvious over Lemelson, Schofield, and Tokito. Pet. 40–41. Claims 29 and 85 require a display intensity of at least about 300 candelas/sq. meter, and claims 30 and 86 require a display intensity of at least about 400 candelas/sq. meter. We agree with Petitioner that Tokito discloses a display intensity of 500 candelas/sq. meter, which is “at least about 300 candelas/sq. meter,” and “at least about 400 candelas/sq. meter,”

as claimed. Pet. 49–50 (quoting Ex. 1006, 10:29–45). Patent Owner does not raise additional specific arguments with respect to Petitioner’s contentions of unpatentability with respect to claims 29, 30, 85, and 86 beyond the arguments Patent Owner raised with respect to independent claims 1 and 76.

Based on our consideration of the evidence and arguments presented in the Petition, Patent Owner’s Response, and Petitioner’s Reply regarding claims 29, 30, 85, and 86, we agree with Petitioner that the combination of Lemelson, Schofield, and Tokito discloses every limitation of each of those claims as shown in Claim Chart 7 of the Petition. *See* Pet. 40–41.

(viii) Claims 44–47, 64–67, 81, and 82

Petitioner asserts that each of claims 44–47, 64–67, 81, and 82 is unpatentable as obvious over Lemelson, Schofield, and Tokito. Pet. 43–45. Petitioner contends each of the claims recites “the naturally expected fields of view for vehicle-mounted cameras of driver assist systems having object/obstacle detection and collision warning/avoidance functions.” *Id.* at 43–44. For example, claims 44, 64, and 81 require a forward facing camera with a field of view that “encompasses the ground immediately in front of the equipped vehicle.” Claims 45, 65, and 82 further require that the field of view of the forward facing camera be “at least about as wide as a front fender of the equipped vehicle.” *Id.* Claims 46, 47, 66, and 67 contain similar limitations with respect to a rearward facing camera. We agree with Petitioner that Lemelson discloses the claimed features, including, for example, a camera with a wide angle lens mounted on the front of the

vehicle, such as the bumper, as well as the use of multiple cameras for front, side, and rear viewing. Pet. 44–45 (quoting Ex. 1005 5:31–35, 6:36–41).

Patent Owner argues that Lemelson fails to teach a field of view for a camera that encompasses the ground “immediately in front” or “immediately rearward” of the equipped vehicle, as claimed. PO Resp. 24–29. According to Patent Owner, a “camera mounted on the front end of the roof, bumper, or end of the hood of the vehicle, as discussed in Lemelson, does not have to have a forward field of view that encompasses the ground *immediately in front* of the vehicle.” *Id.* at 24. We find implausible Patent Owner’s argument that “[b]ecause the camera [of Lemelson] points ahead, the camera does not encompass the ground immediately in front of the vehicle,” when the very purpose of Lemelson’s system to assist the driver of a vehicle is to “avoid obstacles and accidents.” *See id.* at 25; *see also* Ex. 1005, 1:15–16. Patent Owner presents no argument as to the meaning of “immediately in front of” which would limit its scope beyond its ordinary and customary meaning to otherwise distinguish it from the disclosure of Lemelson. As discussed above, it is not necessary to find precise teachings in the prior art directed to the specific subject matter claimed because inferences and creative steps that a person of ordinary skill in the art would employ can be taken into account. We agree with Petitioner that it would have been well within the range of a person of ordinary skill to know and understand from Lemelson that a camera used in a system to assist the driver of a vehicle in preventing accidents, whether facing forward or rearward, would be expected and desirable to have a field of view that encompasses the ground

“immediately” in front of, or to the rear of, the equipped vehicle, as well as an area at least as wide as the front fender of the vehicle.

Based on our consideration of the evidence and arguments presented in the Petition, Patent Owner’s Response, and Petitioner’s Reply regarding claims 44–47, 64–67, 81, and 82, we agree with Petitioner that the combination of Lemelson, Schofield, and Tokito discloses every limitation of each of those claims as shown in Claim Chart 9 of the Petition. See Pet. 43–45.

*(b) Obviousness of Claims 25, 57, 75, and 89 Over
Lemelson, Schofield, Tokito, and Schaefer*

Petitioner asserts that each of dependent claims 25, 57, 75, and 89 is unpatentable as obvious over Lemelson, Schofield, Tokito, and Schaefer. Pet. 48–50. Each of these claims further require that “at least one user input comprises a touch sensitive input.” According to Petitioner, this feature is an “entirely conventional detail.” *Id.* at 48. We agree with Petitioner that Schaefer discloses this features as part of a “a central operating input and information system for the control of a plurality of optional instruments in a vehicle,” with “a touch-sensitive display screen . . . where a place of touch can be localized on its surface (‘touch screen’) so that the control keys can be shown individually on the screen as virtual touch keys or touch fields.” See Pet. 49 (quoting Ex. 1008, 1:8–13, 5:40–44).

Patent Owner does not argue that the combination of Lemelson, Schofield, Tokito, and Schaefer fails to disclose any limitation of 25, 57, 75, and 89 beyond the arguments Patent Owner raised with respect to claims 1, 39, 59, and 76. Based on our consideration of the evidence and arguments presented in the Petition, Patent Owner’s Response, and Petitioner’s Reply

regarding claims 25, 57, 75, and 89, we agree with Petitioner that the combination of Lemelson, Schofield, Tokito, and Schaefer discloses every limitation of claims 25, 57, 75, and 89 as shown in Claim Chart 12 of the Petition. *See* Pet. 48–50.

(c) *Reason to Combine*

Petitioner must articulate sufficient reasoning with rational underpinnings to support the asserted combination of references. *See In re Kahn*, 441 F.3d 977, 988 (Fed. Cir. 2006) (cited with approval in *KSR*, 550 U.S. at 418). We agree with Petitioner that Lemelson discloses all of the claimed features of the challenged claims of the '330 patent other than the specifically claimed luminance value for the in-vehicle display (and the touch sensitive user input of claims 25, 57, 75, and 89). *See* Pet. 21. To the extent Patent Owner argues that Petitioner was required to provide reasons to combine “different sections” of Lemelson, we disagree. *See, e.g.*, PO Resp. 11. “A reference may be read for all that it teaches, including uses beyond its primary purpose.” *In re Mouttet*, 686 F.3d 1322, 1331 (Fed. Cir. 2012) (citing *KSR*, 550 U.S. at 418–421). In this case, merely referring to “different sections” of a reference which all address a common driver assist system does not create the need to articulate a rationale for combining those sections.

Tokito teaches a luminance value for an in-vehicle display of 500 candelas/sq. meter, which is within the recited “at least about 200 candelas/sq. meter” of the '330 patent. In this case, the rationale for the combination of Lemelson and Tokito is clear: to provide an in-vehicle display having sufficient luminance to be seen in daylight conditions. *See*

Pet. 22. That rationale is supported by Tokito. *See* Ex 1006, 10:29–67 (stating that “because a sufficient luminance is obtainable, a secure display can be effected even when the sun shines through the window”).

Dr. Wilhelm further explains that:

Tokito (Ex. 1006) itself provides the rationale for combining its teachings of the claimed automotive video display luminance values with those of Lemelson. Lemelson does not disclose the routine design choice of selecting a video display having luminance suitable for use in an automotive driver assist system. A PHOSITA not already knowing the range of acceptable luminance values would have naturally looked to other sources, including Tokito (Ex. 1006), which specifically address this minor technical detail.

Ex. 1021 ¶ 53.

Patent Owner contests the sufficiency of Petitioner’s rationale, but does not provide any substantive argument or evidence against the combinability of the asserted references. *See* PO Resp. 31–43. Patent Owner argues that Petitioner failed to show that “the subject matter as a whole would have been obvious,” by failing to show “how the proposed art fits together,” “how the specific references could be combined, which combination of elements could be made, or how the combination would operate to read on the challenged claims.” PO Resp. 31–32. In particular, Patent Owner argues that Petitioner “never shows why a [person of ordinary skill in the art] would have used Tokito to teach this feature, or how a POSA would have combined Tokito with Lemelson.” We disagree. A combination “of familiar elements according to known methods is likely to be obvious when it does no more than yield predictable results.” *KSR*, 550 U.S. at 401. Applying a known luminance value for in-vehicle displays, as specified in

Tokito, to an in-vehicle display described in Lemelson is nothing more than a combination of familiar elements which yield the predictable and desirable result of an in-vehicle display with a luminance sufficient for daylight conditions. Although we find that one of ordinary skill in the art would understand Lemelson to disclose the claimed features associated with operating the rearview camera and the vehicle display “during a reversing maneuver,” as claimed, Petitioner has further provided sufficient rationale for the asserted combination with Schofield as well. According to Petitioner, the addition of Schofield to the Lemelson-Tokito combination is to demonstrate that it was conventional to have an in-vehicle display depict data from a rear facing camera when the vehicle was in reverse. *See* Pet. 21.

We find unpersuasive Patent Owner’s argument that Petitioner “never states why or how Lemelson and Schofield can be combined.” PO Resp. 34. According to Patent Owner, Petitioner

never explains why a [person of ordinary skill in the art] would have combined Lemelson with Schofield to display the claimed image data captured by a rearward facing camera when the vehicle is in “reverse” or how the components in Lemelson and Schofield could be combined to make the alleged combination.

Id. at 35. Patent Owner further argues that Petitioner offers no “explicit analysis for *why* this three-reference combination would have been made.” PO Resp. 39, *see also id.* at 38–41.

As explained in *KSR*:

When there is a design need or market pressure to solve a problem and there are a finite number of identified, predictable solutions, a person of ordinary skill in the art has good reason to pursue the known options within his or her technical grasp. If this leads to the anticipated success, it is likely the product not of innovation but of ordinary skill and common sense.

550 U.S. at 402–03. The activation of a display of a rear view camera when a vehicle is in reverse as part of a system to assist the driver of a motor vehicle in preventing accidents, as described by Lemelson, is the epitome of common sense. “A person of ordinary skill is also a person of ordinary creativity, not an automaton.” *KSR*, 550 U.S. at 421. Thus, a person of ordinary skill would have adopted the rearview system of Schofield to assure that the display screen depicts information from the rearview camera to avoid hazards when the vehicle is performing a reversing maneuver. Accordingly, Petitioner has provided sufficient rationale for the asserted combination of Lemelson, Schofield, and Tokito.

With regard to claims 25, 57, 75, and 89, we understand based on the information provided by Petitioner that it contends the use of a touch sensitive input, as supported by Schaefer, was a known, simple substitution of one known element for another yielding the predictable result of a touch-sensitive in-vehicle display. *See* Pet. 48–49 (describing the feature as an “entirely conventional detail” that was “notoriously old”). According to Dr. Wilhelm:

The use of touch-sensitive display screens for in-vehicle information systems such as that described in Lemelson (Ex. 1005) was disclosed almost fifteen years earlier in Schaefer (Ex. 1008). Inclusion of such a “user input” in a driver assist system in January 2002 was not inventive or even unusual, in my experience.

Ex. 1014 ¶ 59.

Patent Owner argues that Petitioner provides no sufficient rationale for the combination with Schaefer. PO Resp. 41–43. As noted above, a combination “of familiar elements according to known methods is likely to

be obvious when it does no more than yield predictable results.” *KSR*, 550 U.S. at 401. Moreover, “[i]f a person of ordinary skill in the art can implement a predictable variation, and would see the benefit of doing so, § 103 likely bars its patentability.” *KSR*, 550 U.S. at 401. Lemelson discloses various user inputs, including a keyboard, and the addition of Schaefer’s touch sensitive screen in place of a keyboard is a combination of familiar elements which yield a predictable result, thereby providing the implicit benefit of not requiring a separate keyboard. Accordingly, we determine that Petitioner has provided sufficient rationale for the asserted combination of Lemelson, Schofield, Tokito, and Schaefer.

4. *Secondary Considerations of Nonobviousness*

Patent Owner offers no evidence of secondary considerations in support of nonobviousness.

C. *Conclusion*

For the foregoing reasons, after considering the Petition, Patent Owner’s Response, Petitioner’s Reply, and all evidence relied upon by Petitioner and Patent Owner, we are persuaded that Petitioner has shown by a preponderance of the evidence that claims 1–7, 9, 10, 13–15, 18, 22–24, 26, 27, 29, 30, 39–41, 43–49, 52, 55, 56, 58–61, 63–69, 72, 76–78, 80–83, and 85–88 would have been obvious over Lemelson, Schofield, and Tokito; and that claims 25, 57, 75, and 89 would have been obvious over Lemelson, Schofield, Tokito, and Schaefer.

IV. ORDER

In consideration of the foregoing, it is hereby:

ORDERED that claims 1–7, 9, 10, 13–15, 18, 22–27, 29, 30, 39–41, 43–49, 52, 55–61, 63–69, 72, 75–78, 80–83, and 85–89 of the '330 patent are held unpatentable; and

FURTHER ORDERED that because this is a Final Written Decision, parties to the proceeding seeking judicial review of the decision must comply with the notice and service requirements of 37 C.F.R. § 90.2.

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Patent 8,543,330 B2

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